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A PROCEDURE FOR MANAGING INTERDISCIPLINARY INTELLIGENCE PRODUCTION

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The most popular buzz-word in intelligence production circles these days is "interdisciplinary." One hears a great deal about the needs of intelligence consumers for integrated products—reports that pull together the economic, political, military, technological and societal aspects of an issue so that a policy maker gains a broad understanding of it. This is necessary, it is argued, because policymakers themselves have no time to perform the integration. Hence, intelligence reporting that focuses on only one dimension of an issue at best can provide some useful, but incomplete, information; at worst it may be dismissed by the consumer as irrelevant.

That one of the functions of intelligence is to provide policymakers with complete and relevant information on an important issue is obvious; the problem has been how to organize and manage the production of such information. This article describes one method that has been used with some success in the National Foreign Assessment Center (NFAC) and has now been institutionalized in the research planning process. My purpose is to record the lessons that we learned in producing a major interdisciplinary study on the development of the prospects for Soviet military power so that those charged with managing issue-oriented research can profit from our experience. (Those more interested in our substantive findings can refer to the study, *The Development of Soviet Military Power: Trends since 1965 and Prospects for the 1980s.*)

Origins of the Study

For several years it has been evident to the Intelligence Community that the environment for Soviet decisionmaking on national security issues is changing markedly.

- Growth of the Soviet economy is slowing and is likely to decline further in the 1980s as energy and manpower shortages compound the longer-standing problem of poor productivity.
- Many of the top military and political leaders will be replaced soon: most are in their 60s and 70s and a number are in poor health.
- Growing Western concern about Soviet military power, China's opening to the West, and instability in Eastern Europe and the Third World are altering the international setting.
- Advances in technology are providing new opportunities to upgrade military capabilities.

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These complicating factors make it particularly difficult for intelligence analysts to forecast Soviet behavior. But the tools available to analysts have become more powerful:

- The Office of Strategic Research (OSR), drawing on analysis performed throughout the Intelligence Community, has compiled an all-source data base on trends since the 1950s in Soviet military production, order-of-battle, manpower, and expenditures.
- The Office of Scientific and Weapons Research (OSWR) has gained valuable insights into the Soviet system for managing missile and space programs and the development capacity of the Soviet aerospace industry.
- The Office of Economic Research (OER) has developed new models to assess and predict Soviet economic performance.
- The Office of Political Analysis (OPA) has instituted research projects aimed at (b)(1) Soviet policymakers and their possible views on policy issues.
- Analysts throughout the community—in OSR, OSWR, OPA, and in DIA and the military services—have greatly improved their knowledge of the Soviet policy process.

It was this coincidence of an important policy issue and new analytical tools that led OSR to initiate the process that led to production of a major interdisciplinary assessment of the prospects for Soviet military power.

The Process

The process began in early 1979 with planning for a two-day seminar on "Soviet Defense Decisionmaking." At that seminar analysts from the NFAC production offices briefed each other and their managers on their current understanding of Soviet decisionmaking processes and on the factors likely to influence Soviet choices on military forces and policies for the 1980s. Out of the discussions a consensus emerged in favor of a broadly-based, interoffice research effort aimed at producing an integrated report on the prospects for the development of Soviet military power in the coming decade. The group also identified the major research themes that the individual offices should investigate.

Following the seminar, an interoffice working group was formed to turn the general research themes into a concrete plan of action. (I chaired the group; other members were (b)(3)(c) of OSWR; (b)(3)(c) of OPA; (b)(3)(c) of OER; and (b)(3)(c) of OSR.) The working group was tasked with evaluating the current NFAC research program, recommending redefinition and rescheduling of planned research, and proposing new projects to meet the goals of the plan.

Initially, some members of the working group expressed reservations about the plan, and some managers resisted the notion that an interoffice group should play a role in determining their production priorities. We also touched some sensitive nerves by recommending a few projects that the offices, for one reason or another, were less anxious to undertake. Eventually, however, we hammered out a consensus at the working group level.

The working group codified its research proposals in a formal document, signed by all of the NFAC office directors, and set up a management information system to

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keep the directors aware of the program's progress. The program plan consisted of an interim report on recent trends in Soviet military forces, some (b)(1) building block papers on individual factors affecting Soviet policy, and an overview report for publication in the spring of 1981.

By the summer of 1980, enough work on the building blocks project had been completed to warrant a working-level seminar to outline the major theses of the overview paper, and identify areas for further research. During October and November, a first draft of the overview paper was put together. Coordination of the paper was completed in March and in May the DCI transmitted the report to the President, Vice President, Secretary of State, Secretary of Defense and Assistant to the President for National Security Affairs. Several hundred other consumers received the paper through normal dissemination channels.

Reaction to the paper has been highly favorable. Several high-level recipients have praised the integrative character of the analysis. The report has contributed to debates on US military programs and has been made required reading for seminars at one of the war colleges.

Lessons Learned

In the process of producing our paper we learned a great deal about planning and managing interdisciplinary research. First, we learned that it is possible, within a hierarchical organization, to carry out an integrated research program. But we also learned that managing such a program is difficult and demanding: both careful planning and vigorous follow-up are vital.

More specifically, we found that there are a number of essential steps in an interdisciplinary project:

- Choosing the issue properly.
- Sharing information and views among analysts with different backgrounds.
- Defining the issue in terms of its major research themes.
- Appointing a project leader and working group to develop a program plan.
- Assessing the adequacy of currently planned research in answering key questions about the research themes.
- Preparing a program plan with milestones for completion.
- Formal commitment of resources to the effort.
- Monitoring the progress of the research program and taking action to keep it on track.
- Integrating the findings into an overview paper.

As a result of our experiences, I believe that all of these steps are needed, regardless of the organizational structure established to carry out interdisciplinary analysis.

Issue Identification

The first order of business is to frame the issue so that it can be an effective guide to research. If this isn't done properly, the project team may be unable to assess the effectiveness of its plan. In the words of psychologist David Campbell, "If you don't know where you're going, you're likely to end up somewhere else."

A particular challenge in this first step is to be sure that you are dealing with an issue. It's easy to confuse the process of defining research to address an issue or answer a question with the (equally important) problem of ensuring that there is adequate analytical coverage of a topic or geographic area. An issue like "the ability and

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willingness of the NATO allies to shoulder a larger defense burden" can be addressed by the method described in this article. But "Africa" and "Nuclear Proliferation" are areas and topics, not issues, and different techniques probably are required to manage research dealing with them. A good test is to try to frame the issue in terms of a question that can be addressed in a single paper. If you can't, it probably isn't an issue.

Information Sharing

This is an indispensable step in an interdisciplinary research effort. It is necessary to combat a common fallacy—that the information held by an individual or group is generally known by others. (This is rarely the case, even when individuals or organizations have close working contacts.) It is also important to have a common basis for planning the research program.

Successful information sharing, like the other steps in an interdisciplinary research program, requires careful planning.

- The atmosphere must be right. We found that holding a two-day initial planning seminar in a remote location permitted an intensive exchange of ideas away from day-to-day pressures.
- The briefing topics must be well-chosen. They should provide a wide range of perspectives on the issue, but they must be relevant. There may be a tendency to brief on a topic not related to the issue simply because the information is available. This should be resisted.
- The group dynamics must work. The conference planners must get the right mix of personalities and expertise, even if this results in an imbalance in organizational representation. They must also, however, ensure that the key analysts who will be working on the program and managers from the participating organizations are present. This is needed to ensure from the beginning a commitment to the goals of the program.

Theme Definition

The culmination of the initial sharing of information should be the identification of themes for organizing the research effort. If this is not done, there is a danger that participants in the information sharing phase will leave, having been entertained with briefings but without a clear idea of where the effort will lead.

This is a tricky phase of the process, and the planners must be careful to explain its purpose to the participants. There will be a tendency for many to want to argue substance or draw conclusions, but this is not the time. Instead, the participants should strive to understand all of the facets of the issue and to record their understanding as a set of themes for further investigation.

A technique that we used successfully was a variation of brainstorming called "funneling applied creativity." After immersing seminar participants in substantive briefings for a day and a half, we solicited from them their ideas on research themes that should be followed up. The ground rules permitted anyone to make a proposal and prohibited any criticism or discussion until all of the suggestions had been put forward and recorded on flip charts. We then opened the floor for discussion and deleted some themes and refined others. The themes that we settled on were:

- Soviet defense decisionmaking and management.
- Soviet military goals, threat perceptions and requirements..
- Defense and the Soviet political succession.
- The Soviet defense-industrial establishment.
- Defense and the Soviet economy.

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- Trends in Soviet military forces.
- Soviet military technology.

Appointing a Management Team

The final act of the initial planning seminar should be to appoint a management team. The team will have two tasks:

- To formulate a program plan.
- To monitor and report on execution of the plan.

The team should include representatives of all organizations that have substantive responsibilities related to the research issue. But more importantly, it must have the right blend of personalities and expertise. A critical task for managers, then, is to select a knowledgeable group of senior analysts or first line managers who know both the substantive issues and the research and production capabilities of their organizations.

Assessment of Current Research

Once there is agreement on the definition of the research issue and its themes, the first task for the management team is to assess the adequacy of current plans. The difficult parts of this step are defining the criteria for measuring adequacy and finding out exactly what the current plans were.

For our measuring stick we used a set of key questions structured into the seven research themes (see box below for examples). The concept was that research would be adequate if it would permit confident answers to all the key questions. To uncover information about current plans, we found personal contacts to be far more useful than published research programs. (The published programs were often cryptic, out of date, and unrealistic.) For this reason, it is important that the members of the working group be in a position to find out what really is going on in their offices and to provide realistic assessments of the intended scope and completion dates of currently scheduled projects. It is particularly important to go beyond the titles of planned research projects and find out more about their purposes and substantive theses. Without this information, it is impossible to judge the appropriateness of the planned research.

Research Theme 3: Defense and the Soviet Political Succession

Key Questions: What are the possible scenarios for the Soviet political succession? Who are the likely candidates for top leadership posts? What are their views and preferences in the area of defense resource allocation and military policy? How much flexibility will a new regime have to alter resource priorities and policies?

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Research Theme 6: Trends in Soviet Military Forces

Key Questions: What have been the key trends in Soviet military forces? Are they consistent across service and mission lines? What programs are now under way or known to be planned? When will they impact on force structure and capabilities and to what extent?

What deficiencies do the Soviets perceive in their forces? What can we infer from this about new programs initiatives for which we currently have no evidence?

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Preparation of a Plan

Once the criteria for success are established and currently programmed research is identified, the project leader and management team can begin to prepare a program plan. The first step is fairly mechanical—array the scheduled projects by theme, compare their estimated completion dates, and identify necessary adjustments. Some projects might logically be combined or made into joint projects.

For those key questions that will not be adequately answered by currently planned projects, the project manager and his group should prepare project proposals. These should be specific enough to be a basis for resource decisions by office managers. They should include, for example, a statement of the scope and proposed schedule, level of analytical effort and any special requirements such as ADP or contractor support. It's useful to identify the analysts (or at least the branches) best suited to carry out each proposed project.

At this stage, the management team should also identify requirements for overview papers to integrate the findings of the building-block projects. If possible, the group should identify potential drafters so that they can be involved in the entire research program.

After all of this homework is done, the project manager should prepare a consolidated program that identifies all of the building-block and overview papers, sets forth schedules and assigns responsibilities, and recommends new projects to fill gaps in current plans.

Formal Commitment of Resources

After the plan has been prepared in draft, it should be submitted for approval by senior management. The approval should be formal and specific. To make a program work, it is necessary that managers at all levels assign sufficient analytical resources and protect them. When approving the plan, managers should be made aware that they have made commitment to deliver their projects and that their own supervisors will be apprised of the progress of research.

Once the plan is completed it should be circulated to all analysts and managers involved. (We gave our plan a little extra dignity by having it bound in hard covers.) It is essential that the participants understand their role in the plan. One of the important functions of a program plan is to alter the directions of individual projects so that they are responsive to the key questions. This can't be done unless people know what the questions are and how their own work relates to them. The only way to ensure this is good communications. It's helpful to record in the Advance Work Plans of both analysts and managers that their projects are related to an interdisciplinary research issue.

Monitoring and Troubleshooting

Even the most carefully prepared plan will fail without aggressive follow-up. Periodic reports to senior managers are essential to keeping the program on track. (We sent reports quarterly.) The project manager and team must be frank in identifying problems and pressing for their solution. We found that most problems solved themselves once they were made known. But occasionally we had to keep reminding managers of their commitments and on one occasion had to convene a formal meeting of office directors.

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Another essential ingredient is an effort to promote better communications among the analysts working on the building-block projects. Merely publishing a program plan will not make analysts aware of their responsibilities and their importance in the overall process. It will be necessary to organize briefings, seminars, and retreats to facilitate communications, and the members of the working group must be prepared to spend a great deal of time and effort trying to break down bureaucratic and disciplinary barriers.

Production and Evaluation

The final step in the process is to integrate the results of the building-block projects into a coherent overview paper. The danger in this stage is that it may degenerate into "analysis by staple." Interdisciplinary analysis must be more than editing inputs from various specialists; it should entail a real effort to combine the methods of several disciplines to create new insights.

It's particularly important to select the right drafting team. It's not enough to form a group of, say, an engineer, an economist, and a political scientist. At times people from different specialties have such different mindsets and vocabularies that they literally cannot communicate. Ideally, each drafter should have experience in at least two disciplines. And whatever their background the drafters must work effectively together—have the right body chemistry.

We found that the close personal relationships that were forged during the working group's seminars were an important ingredient in promoting interdisciplinary analysis. The participants knew each other, appreciated the work of other organizations, and learned the concepts and vocabulary of other analytical disciplines well enough to communicate effectively. Moreover, most coordination problems were cleared up during preparation of the building-block papers, leaving only a few contentious issues for the overview report.

This is not to say that we had no problems. We faced two serious substantive disagreements. Opinion was sharply divided between OSR and OER on prospects for Soviet defense spending and between OSR and OPA on the extent to which Soviet force procurements were driven by military or political considerations. These issues were to have been addressed in building-block papers, but the schedules for the papers had slipped so that coordinated conclusions were not available for the overview report. Eventually we solved the problems—the first by more analysis and the presentation of alternative projections; the second by textual changes and a realization that the difference was largely semantic. But it would have been more efficient to identify the differences of opinion earlier, in the building-block projects, so that they could be worked out in a more rigorous fashion.

The process of managing interdisciplinary research should not stop with publication of an overview paper. It's necessary, then, to have a formal evaluation of the program's accomplishments and of the remaining gaps in knowledge. The mechanism we used was yet another two-day seminar at which we reported to NFAC managers on what they had received for their resource commitment and solicited their help in identifying and sponsoring follow-on research.

Final Thoughts

The process described in this article worked. There may be other ways of producing a major interdisciplinary report, but based on my experience I believe there are five indispensable ingredients.

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- *Commitment* by senior managers to the importance of the issue and a willingness to devote resources to it and protect those resources.
- *Careful planning* that involves all interested parties from the beginning.
- *Good communications* both up the line to management and across organizational lines among analysts.
- The right *body chemistry* among planners and analysts.
- *Follow-up* to ensure that all participants retain their commitment and carry out their responsibilities.

There are commodities to be rationed carefully among issues that are genuinely high in priority. My own opinion is that an organization the size of NFAC probably should not undertake more than about half a dozen major interdisciplinary projects at a time. A larger number would dilute the commitment of senior managers and reduce their ability to protect the resources devoted to the programs. But if aggressively managed and strongly supported, the process I've described has a high probability of payoff.

"It is at all times necessary . . . that we frequently refresh our patriotism by reference to first principles. It is by tracing things to their origin that we learn to understand them, and it is by keeping that line and the origin always in view that we never forget them."

Tom Paine

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